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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,578	02/25/2002	Hiroshi Hatae	ASAM.0045	8728

7590 12/22/2004

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EXAMINER	
LI, AIMEE J	

ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/080,578	HATAE ET AL.	
	Examiner	Art Unit	
	Aimee J Li	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2002 and 01 April 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) *6-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-5 have been considered. Claims 6-17 have been withdrawn from consideration as per Applicant's choice due to a restriction requirement.

Papers Submitted

2. It is hereby acknowledged that the following papers have been received and placed of record in the file: Foreign Priority Papers as received on 01 April 2002.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Election/Restrictions

4. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-5, drawn to a SIMD processor with a data transfer control with concurrent read and write functions, classified in class 712, subclass 227.

II. Claims 6-17, drawn to a SIMD processor with a data transfer control with bit extension, classified in class 712, subclass 224.

5. The inventions are distinct, each from the other because of the following reasons:

6. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, the invention of group I has separate utility such as use in a system without bit extension. See MPEP § 806.05(d).

7. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

8. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

9. During a telephone conversation with Mr. Juan Marquez (Reg. No. 34,072) on 20 October 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-5. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-17 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

10. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which

it is most nearly connected, to make and/or use the invention. Claim 3 states "said first port concurrently input and output...data items" and "said second port concurrently input and output...data items", yet the specification does not teach how a single port can input and output at the same time.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being taught by Gove et al., U.S. Patent Number 5,212,777 (herein referred to as Gove).

15. Referring to claim 1, Gove has taught a semiconductor integrated circuit, comprising:

a. A single instruction multiple data (SIMD) unit conducting a concurrent operation of data items for a plurality (Gove column 1, line 50 to column 2, line 5; column 3, lines 5-13; column 5, lines 20-47; column 6, lines 6-12; Figure 1; and Figure 2);

b. A data buffer connectible to said SIMD unit (Gove column 5, lines 20-47; column 6, lines 23-36; column 16, lines 6-17; Figure 1; Figure 2; and Figure 16); and

c. A data transfer control unit for controlling transfer of data for said data buffer (Gove column 2, lines 47-53; column 2, line 62 to column 3, line 13; column 5, lines 35-48; column 12, lines 32-56; column 16, lines 6-17; Figure 1; Figure 2; Figure 17; and Figure 57),

d. Wherein said data transfer control unit controls the transfer of data for a subsequent operation to said data buffer in concurrence with the operation of said SIMD unit for the plural data items read from said data buffer (Gove column 2, lines 47-53; column 2, line 62 to column 3, line 13; column 5, lines 35-48; column 12, lines 32-56; column 16, lines 6-17; Figure 1; Figure 2; Figure 17; and Figure 57). In regards to Gove, Gove has taught that the transfer processor is autonomous from the SIMD processing area and feeds data into data buffer locations that are not in use by the SIMD.

16. Referring to claim 2, Gove has taught wherein said data buffer includes a dual-port unit including a first port and a second port (Gove column 6, lines 47-58; column 7, lines 5-13; column 12, lines 32-56; column 16, lines 6-17; Figure 1; Figure 2; Figure 4; Figure 17; and Figure 57),

a. Said first port being connected via a first bus to said SIMD unit (Gove column 6, lines 47-58; column 7, lines 5-13; column 12, lines 32-56; column 16, lines 6-17; column 37, lines 5-20; Figure 1; Figure 2; Figure 4; Figure 17; Figure 30; and Figure 57),

b. Said second port being connected via a second bus to said data transfer control unit (Gove column 6, lines 47-58; column 7, lines 5-13; column 12, lines 32-56; column 16, lines 6-17; column 59, line 45 to column 60, line 3; Figure 1; Figure 2; Figure 4; Figure 17; and Figure 57). In regards to Gove, the port is inherent to the Transfer Processor in order for it to receive and transmit data.

17. Referring to claim 3, Gove has taught

a. Said first port concurrently input and output the plurality of data items for said first bus (Gove column 6, lines 47-58; column 7, lines 5-13; column 12, lines 32-56; column 16, lines 6-17; column 37, lines 5-20; Figure 1; Figure 2; Figure 4; Figure 17; Figure 30; and Figure 57); and

b. Said second port concurrently input and output the plurality of data items for said second bus (Gove column 6, lines 47-58; column 7, lines 5-13; column 12, lines 32-56; column 16, lines 6-17; column 59, line 45 to column 60, line 3; Figure 1; Figure 2; Figure 4; Figure 17; and Figure 57).

18. Referring to claim 4, Gove has taught

a. A first data register connected to said first bus, said first data register being concurrently latched the plurality of data items (Gove column 38, lines 9-12; column 39, lines 11-35; Figure 30; and Figure 32);

b. A second data register connected to said first bus, said second data register being concurrently latched the plurality of data items (Gove column 38, lines 9-12; column 39, lines 11-35; Figure 30; and Figure 32);

c. An operator for receiving the plurality of data items respectively latched by said first and second data registers and for conducting a concurrent operation for the data items (Gove column 38, lines 9-12; column 39, lines 11-35; Figure 30; and Figure 32).

19. Referring to claim 5, Gove has taught a central processing unit conducting operation control for said SIMD unit and access control via said first bus to said data buffer (Gove column

5, lines 35-47; column 6, lines 23-25; column 12, line 59 to column 13, line 9; column 35, lines 36-49; Figure 1; Figure 2; Figure 4; Figure 17; Figure 29; and Figure 67).

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made. Applicant must also show how the amendments avoid such references and objections. See 37 CFR § 1.111(c).

a. McCann, Jr. et al., U.S. Patent Number 3,774,165, has taught a double buffer system, i.e. concurrently reading and writing to a buffer.

b. Ing-Simmons et al., U.S. Patent Number 5,239,654, has taught a SIMD processor with a data buffer and control units.

c. Gove et al., U.S. Patent Numbers 5,522,083; 5,613,146; 5,768,609; and 6,070,003, has taught a SIMD processor with a data buffer and control units.

d. Meeker, U.S. Patent Number 6,073,185, has taught a SIMD processor with a data buffer and control units.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aimee J Li whose telephone number is (571) 272-4169. The examiner can normally be reached on M-T 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJL
Aimee J. Li
10 December 2004

RICHARD L. ELLIS
PRIMARY EXAMINER